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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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04/30/2001

Ted E. Dunning

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5884

32361

7590

07/28/2006

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EXAMINER

RETTA, YEHDEGA

ART UNIT

PAPER NUMBER

3622

DATE MAILED: 07/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/846,823

Applicant(s)

DUNNING ET AL.

Examiner

Yehdega Retta

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-97 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-97 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

This office action is in response to Request for Continued Examination filed May 9, 2006. Applicant amended claims 1, 39 and 59. Claims 1-97 are still pending.

Priority

The later-filed application must be an application for a patent for an invention which is also disclosed in the prior application (the parent or original nonprovisional application or provisional application). The disclosure of the invention in the parent application and in the later-filed application must be sufficient to comply with the requirements of the first paragraph of 35 U.S.C. 112. See *Transco Products, Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ2d 1077 (Fed. Cir. 1994).

The disclosure of the prior-filed application, Application No. 60201622, fails to provide adequate support or enablement in the manner provided by the first paragraph of 35 U.S.C. 112 for one or more claims of this application. The provisional application does not provide support for the newly claimed limitation of scoring the user logs so as to generate user log scores based exclusively on detected user item selections and determining at least one item to discover at least one relationship based exclusively on detected user item selection. The provisional document teaches the recommendation engine utilizes both the explicit and observed behavior to provide recommendation (see page 213).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it

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pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-33 and 39-92 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claims 1, 39 and 59, a method or system to generate user log scores based **exclusively on the detected (which implies implicit) user behavior and determining at least one result item so as to discover at least one relationship based exclusively on detected user item** selections, is not described in the specification. Applicant's specification discloses recommendation made based on implicit and explicit data. Applicant specification, [0109] discloses recommendation engine 107 provides suggestions for tracks and artists that are likely to appeal to a particular user. Further it discloses that the recommendation engine takes as input the user profile from profile database 112, as well as personal criteria database containing demographic and other information describing the user, thus the engine uses a combination of explicit preferences and observed behavior to provide personalized music recommendations. On paragraph [0113] the specification discloses that in one embodiment profile database 112 is augmented and enhanced by data from user feedback (when users listen to music tracks, they may be offered the opportunity to provide feedback as to whether they enjoyed the tracks as to their opinions on other tracks and artists and such feedback is processed and stored in profile database 112 and may be used as a basis for future recommendation). On paragraph [0114] the specification cites "(a)s described below, the invention discovers relationships among artists and

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tracks in order to find musical selections that the user is likely to enjoy, based on observed behavior and profile information describing the user. On paragraph [0115] the specification discloses that the present invention develops detailed behavior profiles based on observed user listening behavior ...paragraph [0117] indicates that the learned artist relationships along with user profile describing characteristics of users are provided to the recommendation engine. Nowhere in the specification does it shows that the scoring or recommendation or determining is done solely or exclusively on detected user item selection. Therefore, the claimed feature is treated as new matter.

Since Examiner could not find support for the newly added claim, the rejection of “102” stated below is applied. Based on the assumption that the specification discloses the newly added claimed feature than the rejection of “103” stated below applies.

Claim Rejections - 35 USC § 102

Claims 1, 4-27, 32, 33, 39, 42-59, 62-85, 91 and 92 are rejected under 35 U.S.C. 102(e) as being anticipated by Hosken U.S. Patent No. 6,438,579.

Regarding claim 1, Hosken teaches accepting, in a computer, item selections detected from a plurality of users (see fig. 2 (60)); generating a log for each user (64), each log containing identifiers corresponding to user item selection; accepting query; scoring (weighing) user logs (profile) (56), responsive to a degree of occurrence (number of time an item occurs in the cluster see col. 15 line 15 to col. 16 line 21) to the query item (70) and the detected user item selection (log); determining at least one result item responsive (72) to a degree of occurrence in at least a subset of scored user logs (see abstract, col. 2 line 52 to col. 3 line 34, col. 5 line 8 to col. 6 line 38 and col. 9 lines 23-65); Hosken filtering and weighting method provides scoring and

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determining a result, based on the number of times an item appears, i.e., an item with higher weight factor (see also fig. 7A –7C).

Regarding claims 4-11, Hosken teaches video track or music track, generating track list containing an identifier for each determined result. Hosken teaches recommending music and video and other media content items based on similarity in profile between the user and other users (see abstract and col. 11 line 1 to col. 13 line 30 and col. 14 line 40 to col. 16 line 21).

Regarding claims 12 and 13, Hosken teaches accepting selection; input specifying an item purchase by user, provided via web page (see col. 3 lines 17-34, col. 4 lines 11-55, col. 5 lines 20-62).

Regarding claim 14, Hosken teaches defining a subset of the scored user logs (see col. 15 line 10 to col. 16 line 21).

Regarding claims 15-27, Hosken teaches monitoring user behavior and adjusting the user log ... outputting advertisement ...(see col. 5 line 20 to col. 6 line 67 and col. 8 line 38 to col. 11 line 19).

Regarding claims 32 and 33, Hosken teaches deleting item selected by user from the determining at least one result, ranking the result responsive to the degree of significance (see col. 16 lines 24-53).

Claims 39 and 59 are rejected as stated above in claim 1.

Claims 42-45 and 62-69 are rejected as stated above in claims 4-11.

Claims 70 and 71 are rejected as stated above in claims 12 and 13.

Claim 72 is rejected as stated above in claim 14.

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Claims 46-58 and 73-85 are rejected as stated above in claims 15-27.

Claims 91 and 92 are rejected as stated above in claims 32 and 33.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 3, 28-31, 34-38, 40, 41, 60, 61, 86-90, 93-97 are rejected under 35

U.S.C. 103(a) as being unpatentable over Hosken U.S. Patent No. 6,438,579 further in view of Lazarus U.S. Patent No. 6,430,539.

Regarding claims 2, 3, 40, 41, 60, 61 and 86 Hosken does not explicitly teach significance of occurrence being determined by a log of likelihood ratio analysis or a substantial equivalent of a log of likelihood ratio analysis, it is taught by Lazarus (see col. 22 line 19 to col. 25 line 53). Lazarus teaches use of a log of likelihood ratio or an equivalent analysis to determine significance of occurrence (see abstract, col. 4 lines 24-67 and col. 39 lines 13-53). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use Lazarus's predictive model in Hosken's recommendation system since a log of likelihood ratio or equivalent ratio analysis overcomes the problem of small count situations and have much better small count behavior while at the same time retaining the same behavior in the non-small count regions as taught by Lazarus (see col. 24 line 44 to col. 25 line 38).

Regarding claims 28-31, 34-38, 87-90, 93-97, Hosken teaches determining a total number of users, determining a subset of user, determining the items selected or not selected by the subsets and use of correlation algorithm to determine the correlation between the cluster and the user (see col. 15 line 10 to col. 16 line 21). However Hosken failed to explicitly teach the correlation algorithm as a log likelihood ratio, it is disclosed in Lazarus (see abstract, col. 4 lines 24-67 and col. 39 lines 13-53). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use Lazarus's predictive model in Hosken's recommendation system since a log of likelihood ratio or equivalent ratio analysis overcomes the problem of small count situations and have much better small count behavior while at the same time retaining the same behavior in the non-small count regions as taught by Lazarus (see col. 24 line 44 to col. 25 line 38).

Even though Applicant has not provided support for the claimed feature of “generate user log scores based exclusively on detected user item selections”, Examiner provides the rejection stated below in order to provide a compact prosecution.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-27, 32, 33, 39, 42-59, 62-85, 91 and 92 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosken U.S. Patent No. 6,438,579.

Regarding claim 1, Hosken teaches accepting item selection detected from a plurality of users; generating log containing identifiers for user's corresponding to detected user item selection; accepting query; scoring user logs, responsive to a degree of occurrence to the query item, so as to generate user log scores based exclusively on detected user item selections (implicit) and the at least one query item; determining at least one result item in a subset of scored user logs (see abstract, col. 2 line 52 to col. 3 line 34, col. 5 line 8 to col. 6 line 38 and col. 9 lines 23-65). Hosken teaches the implicit collaborative data is advantageously obtained from a user's self-directed actions of reviewing and considering different media content items. Further Hosken teaches thus the selection of items to review and the length and nature of the consideration of such item inferentially reflects the user's relative interest in particular media content items. Hosken also teaches confidence levels in the inferences drawn can also be developed and refined through the continued monitoring of user actions in reviewing and considering the same and closely similar media content items (see col. 3 lines 16-33). On col. 5 lines 42-62, Hosken teaches the amount of time spent by a user reviewing information about the music a particular media item or the time spent listening to music clip provides implicit information regarding the interest level of the user Hosken filtering and weighting method provides scoring and determining a result, based on the number of times an item appears, i.e., an item with higher weight factor (see also fig. 7A –7C). Hosken also teaches that the explicit information provided by users provides high-confidence information that can be incorporated into the group and individualized collaborative data. Hosken teaches that implicit and explicit profiling data is used to provide recommendation (see col. 4 lines 44-67). Hosken discloses that the user may explicitly enter music items and ratings or the system may derive implicit ratings

of music items based on system-based observations (detected) of user actions and the system making recommendation based on the input (see col. 14 lines 13-20). It would have been obvious to one of ordinary skill in the art at the time of the invention to implement selected features of Hosken. Omitting Hosken's collection of explicit user profile, by interviewing or surveying users, would cost less to operate the system. Also it would have been obvious to one of ordinary skill in the art to provide recommendation from implicit user profile only to those who are not willing to participate in the interview or survey of Hosken. It is also well settled that the elimination of an element or its functions is an obvious expedient if the remaining elements perform the same functions as before - *In re Karlson*, 136 USPQ 184, 186; 311 F2d 581 (CCPA 1963). Hosken provisional (60144377) teaches the user profile table (user profile, user profile rating) contains identifying information about music items linked to a user, the information in this table can be provided using explicit rating information provided by the user **or** through implicit observation by the system **based on user's actions** (see page 6 par. 1-5) and providing recommendation based on the explicitly entered music items or implicit rating of music (see page 8 last par. And page 9).

Regarding claims 4-11, Hosken teaches video track or music track, generating track list containing an identifier for each determined result. Hosken teaches recommending music and video and other media content items based on similarity in profile between the user and other users (see abstract and col. 11 line 1 to col. 13 line 30 and col. 14 line 40 to col. 16 line 21).

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Claims 42-45 and 62-69 are rejected as stated above in claims 4-11.

Claims 70 and 71 are rejected as stated above in claims 12 and 13.

Claim 72 is rejected as stated above in claim 14.

Claims 46-58 and 73-85 are rejected as stated above in claims 15-27.

Claims 91 and 92 are rejected as stated above in claims 32 and 33.

Claims 2, 3, 28-31, 34-38, 40, 41, 60, 61, 86-90, 93-97 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosken U.S. Patent No. 6,438,579 further in view of Lazarus U.S. Patent No. 6,430,539.

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have been obvious to one of ordinary skill in the art at the time of applicant's invention to use Lazarus's predictive model in Hosken's recommendation system since a log of likelihood ratio or equivalent ratio analysis overcomes the problem of small count situations and have much better small count behavior while at the same time retaining the same behavior in the non-small count regions as taught by Lazarus (see col. 24 line 44 to col. 25 line 38).

Regarding claims 28-31, 34-38, 87-90, 93-97, Hosken teaches determining a total number of users, each group containing information detected from implicit use behavior, (see fig. 2 (70, 68, 64)); determining a subset of user, determining the items selected or not selected by the subsets and use of correlation algorithm to determine the correlation between the cluster and the user (see col. 15 line 10 to col. 16 line 21). However Hosken failed to explicitly teach the correlation algorithm as a log likelihood ratio, it is disclosed in Lazarus (see abstract, col. 4 lines 24-67 and col. 39 lines 13-53). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use Lazarus's predictive model in Hosken's recommendation system since a log of likelihood ratio or equivalent ratio analysis overcomes the problem of small count situations and have much better small count behavior while at the same time retaining the same behavior in the non-small count regions as taught by Lazarus (see col. 24 line 44 to col. 25 line 38). Hosken discloses that the user may explicitly enter music items and ratings or the system may derive implicit ratings of music items based on system-based observations of user actions and the system making recommendation based on the input (see col. 14 lines 13-20). It would have been obvious to one of ordinary skill in the art at the time of the invention to implement selected features of Hosken. Omitting Hosken's collection of explicit user profile, by interviewing or surveying users, would cost less to operate the system. Also it would have been

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obvious to one of ordinary skill in the art to provide recommendation from implicit user profile only to those who are not willing to participate in the interview or survey of Hosken.

Response to Arguments

Applicant's arguments filed May 9, 2006 have been fully considered but they are not persuasive. Applicant's argument in regard to the exclusively on the detected user item selection is addressed in the "103" rejection stated above. In regards to applicant's argument that the Hosken "377" is not applied against the claims and is not references in any of the grounds for rejecting the claims, the Examiner would like to point out that Hosken's 6,438,579 is used against the claimed invention and the provision documents provides full support for the claimed invention which makes the effective filing date of Hosken's 6,438,579 as the effective filing date of the provisional document.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yehdega Retta whose telephone number is (571) 272-6723. The examiner can normally be reached on 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Stamber can be reached on (571) 272-6724. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

YR



YEHOLGA RATTER
PRIMARY EXAMINER